

# Family Farm as an Organization Form of the Agricultural Industry in the Concept of Sourcing and Purchasing Management

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**Abstract-** Scientific development of family farms problem, in addition to academic interest, is of great practical importance for the global economy as a whole (more than 90% of households in the agricultural sector in the world are family-run, family farms account for up to 80% of agricultural land farms produce about 80% of the world food) and the Russian agrarian sector in particular. In the current academic discourse and the world practice in agricultural sector, food supply of the population, a vertically integrated organization that has been hampering the optimization of the value of agricultural goods based on the choice of an adequate supply chain management strategy is increasingly criticized. The authors considered theoretical approaches to family farming as a special form of social-and-economic organization, which is the most reliable mechanism for mass recruitment of rural population into the economy and optimization of material and information flows, cooperative ties of value creating participants in order to satisfy consumers in comparison with large agricultural holdings. The US experience indicates the possibility of harmonious combination of developed industry and commodity family farms in economic complexes. Due to their small scale, family farms, being more adaptive to market conditions and, therefore, more sustainable, combine in themselves strategies of commodity production and personal consumption, and also reproduce traditional moral norms. In this regard, the organization of agriculture in the form of family farms is the most adequate form of food supply for the population. Family commodity farms, among other things, are the best form in terms of supply chain management, as they shorten the distance between production and consumption as much as possible.

**Keywords-** family farm, small-scale way of life, agrarian industry, industrial area, sustainable development, theoretical analysis, supply chain management.

## 1. Introduction

The issue of relationship between large and small forms of organization of agriculture in terms of optimizing supply chains is among the most debated topics of modern economics. Within the

framework of the general problem of marketing strategies differentiation, the topic related to the development of local markets for agricultural products was studied [1]. Economists working in this direction are actively researching the relationship between the marketability growth of family farms and the intensity of local markets development that provide direct communication between consumers and producers [2]. The issues of limited investment opportunities for small organization forms of agriculture are considered in the works [3], [4]. Obstacles in the implementation of national projects in agricultural sector due to the dominance of small organization forms are noted [5]. An important study of marketing channels differentiation of family commodity forms: vertical and horizontally oriented, was undertaken by [6]. But a special adaptability of small family farms to changes in market conditions is pointed out by [7]. Economists [8] examined the effect of family commodity farms on consumer satisfaction. The problem of availability of loans and capital for family farms was studied [9]. The efficiency of supply chains in individual branches of agricultural production also attracts the attention of economists [10]. For Russian economy, the problem of family farms development has several practical levels of significance. In connection with the import substitution policy in Russian agrarian industry, there has been a clear bias towards the creation of large agricultural corporations, bearing in addition to the constructive potential a number of flaws that cannot be eliminated within the framework of this organizational form. More than half of the commodity output of Russian agricultural sector (53%) is accounted for by the largest corporations with revenues of more than 5 million US dollars. 41% of agricultural organizations account for slightly more than 1% of revenue, while 1.7% of agricultural organizations account for more than 45% of revenue [11]. First, such a structure of Russian agrarian sector hinders the equal access of economic entities to the means of state support for

agricultural producers. Almost half of them are deprived of access to the state support or receive it in the amount of less than 1 million rubles, while 1.2% of agricultural organizations receive 41% of all funds provided by the state to the agricultural sector [12]. Secondly, the desire to optimize profits does not encourage corporations to attract the masses to production, and therefore to participate in solving the problem of employment and recruitment of rural population into the economic activities. Thirdly, being, as a rule, sector-specific, large agrarian holdings practically do not contribute to the saturation of regional consumer markets and realize their own economic interests outside the territories. On the contrary, family farms are the most reliable mechanism for mass recruitment of rural population into the economy and, therefore, an effective means of solving social problems. In addition, family farms, as a rule, characterized by relatively small sizes, are most appropriate for areas where there are no conditions for mass agricultural production, and are also able to minimize the distance between production and consumption, which predetermined the study of family farming as an optimal form from the point of view of supply chain management.

## 2. Material and method

The theoretical conclusions of the work are based on the provisions obtained from the use of systematic and comparative methods for the analysis of empirical data drawn from statistical materials of the Food and Agricultural Organization of the United Nations (CFAO), the US Department of Agriculture and comparisons with existing works on the topic. The object of the research was the family organization form of agriculture, which, due to its special natural qualities, is distinguished by its particular stability and potential in supply chain management. The dominance of large agro holdings leads to the creation of barriers to family commodity farms entering local food markets and ultimately eliminates them out of the commodity economy [13]. A large number of studies were devoted to family farms [14-23]. However, the conceptualization of family farms phenomenon as a special form of social and economic organization remains still relevant.

## 3. Results and discussion

Optimization of supply chains, or rather, the development of their horizontal type, reduces the

time for capital turnover in family farms, and thus increases their stability and competitiveness. The study of family farms in the context of determining the direction of improving the mechanisms for increasing the efficiency of agricultural sector was actualized in American economic science [24, 25]. The appeal of US researchers to the topic in the 40s of the last century was due to several circumstances. First, it was in this country where the tradition of family organization of commodity agriculture was established, initiating in science the concept of the American farming way of capitalism development. Moreover, the Founding Fathers of the United States reasonably believed that the private property of farmers is the basis of American democracy. Secondly, the actualization of the research prospect related to family farms was caused by a sharp public debate about the feasibility of their support and livelihoods against the background of intensified competition with large agribusiness. Finally, thirdly, the development of economists' research efforts in this matter was explained by the ongoing discussion in the framework of modernization theory. As it is known, at the first stage of its development, most intellectuals believed that the formation of a modern economy meant a complete rejection of traditional economic forms. By the vision of this part of scientific community, industrialization had to completely replace the obsolete family forms of the economy. Modern practice has proved the inadequacy of such theoretical message. Today in the United States family farms account for 90% of the total agricultural output [26]. It is exactly the possibility of harmonious combination of developed industry and commodity family farms in the regional economic complexes that makes their theoretical analysis relevant and practically in demand. In the article published a little later than Johnson's article, [24] attempted to describe the identification features of a family farm. He considered the ideal harmonizing of labor and property in this form of agricultural organization, in which «the role of the employer of labor is insignificant in comparison with other functions», namely, direct labor participation and management decision making, to be a systematic element of commodity family farms. Later, Greek economists C.Kacimis and A.Papandopoulos spoke more specifically on this subject, they wrote: «Family farming is a form of production in which ownership of the means of production and labor coexist in one production unit, without discrete separation of

capital and labor with family members» [27]. As another significant advantage of family farms, [24] pointed to a sign immediately following from the first: the optimal use of resources, including labor, being at their disposal. The combination of labor and property within the family commodity economy does not require other special mechanisms for motivating the prudent attitude of its employees to the equipment and materials used for production [25]. The third sign, ensuring the viability of family farms, according to [24], is the optimal size, creating the optimal management effect. Later it was said enough concerning the optimum scale of economic forms [28]. An increase in the size of an enterprise is inevitably accompanied by diversification of labor collective consolidation centers and weakening of the focus of solving a single economic problem, but most importantly, the principle of direct democracy, which is the foundation of competitiveness and work motivation, weakens the family's natural advantage. O.R. Johnson calls the immanence of co-operation as another advantage of family farms, resulting from the limited resources at their disposal. The incomplete self-sufficiency of family farms forces them to use systematically «the exchange assistance of their neighbors to carry out

their productive activities» and, on the contrary, limits their potential in employing hired labor [24]. An important feature of family farms was noted [18] That is combining them with households, firstly, increases the material potential of the latter, secondly, allows continuous monitoring of commodity production process and, thirdly, ensures continuity in the transfer of economic skills [20]. According to another researcher of family farms [28]: «1) a conditional family farm is characterized by relationship between three functional units: a) a production unit (that is, a form), b) a consumption unit (that is, a household), and c) a kinship unit (that is, a family)» [29]. In addition, indicates the absence of absolute static nature of the family farm. In terms of commodity production and market conditions, such has the potential of mobility both towards consolidation and towards decreasing prosperity. As a result of the first trend, there is always the possibility of transforming family farms into a «family farming business», in which family labor loses its system-forming role. The consequence of the second trend is the deprivation of the commercial nature of farms and their gradual reduction to the household format. The structure of farms currently operating in the United States confirms the validity of the above.

**Table 1.** Classification of US farms by gross income (GCFI) [30]

Farm Type	Characteristic
1. Small family farms (GCFI <350,000 USD).	Farms which main worker retired, but continues to develop on a small scale.
	Farms which main worker has a main occupation except farming.
	Farms which main worker has a main occupation on a farm, farms can be either unproductive (GCFI less than \$ 150,000) or farms with moderate sales (GCFI from \$ 150,000 to \$ 349,000)
2. Medium-sized family farms (GCFI 350,000 to 999,999 USD).	
3. Large-scale family farms (GCFI \$ 1 million or more).	Large family farms, GCFI ranges from US \$ 1,000,000 to US \$ 4,999,999.
	Very large family farms. GCFI is 5 million dollars or more.
4. Non-family farms. The main employee and those associated with him do not own the majority of the business.	

Family farms that form the basis of the US agricultural industry have a structure that corresponds to their level of viability and marketability. Of the total number of family farms, 88% are small. Despite the fact that these farms account for almost half of all land and real estate (buildings and structures) they account for only 20% of marketable products. Large family farms account for more than half of marketable pork production, two thirds of dairy products, fruits and vegetables. The subject of a special discussion among researchers dealing with the problems of family farms, in connection with their social mobility and the potential for growing into large capitalist enterprises, was the ratio of family and

hired labor as an identification criterion. Some researchers, such as H. Brainmaer and A.L. Frederick propose to determine the quantitative indicators of limits of using hired labor in family farms. On this occasion, they write: «Most of the work on the family farm is done by the family. Thus, wage labor cannot exceed the labor of the farmer and the family. The maximum amount of wage labor is often 1-1 / 2 or 2 man-year. The key feature is that family work dominates» [17]. Other economists tend to limit by vague indications in this respect. For example, S. Marquez and A. Ramos point out that family farms are characterized by «limited employment of hired labor» [31]. Sánchez Perasi assumes the use of «contractual or hired

labor as an additional resource» in family farms [32].

The starting theoretical concept in establishing the admissibility limits of hired labor in family farms, bearing in mind the quality directly arising from their nature: the harmonization of labor and property, determining the effectiveness of this form of economic organization, should be a provision on «simple cooperation» developed by Marxism and German historical school of political economy. «Simple cooperation of labor» or association of business entities in one «field» of activity, which levels the individual characteristics of each team member and thus creates a productive force of higher quality than the simple addition of the efforts of the elements united in the system. Thus, the key feature of “simple cooperation” is the achievement of fundamentally higher labor productivity due to averaging the labor of individuals. In each case, it is possible to establish a quantitative edge of the emergence of a higher quality organization using statistical data. Having determined the quantitative edge (for example, the number of employees) of «simple cooperation», it is also possible to reveal the correlation at which a qualitatively higher state of the organization is achieved through the cooperation of hired or family labor. Soviet statistics have succeeded in such calculations. For example, based on an analysis of statistics from the 1920s, it was concluded that the cooperation of hired labor begins to replace family labor in enterprises numbering 10 people without a mechanical engine, and 5 with an engine. In this way, even in family farms, it is possible to reveal the line whereby a new quality of productivity is achieved not at the expense of a related team, but by attracting hired labor.

Family farms operating in the traditional sector of economy, the genesis of which is not associated with the revolutionary breaking of the order of rural communities and the expropriation of the property of other farmers, have a dualistic nature. On the one hand, the family farm, having the basis in the form of the most conservative family institution, retains the traditional features linking this organization with the patriarchal world order. On the other hand, being a product of an economic system based on commodity-money relations, the family farm undoubtedly belongs to the civilization phenomenon of new wave and bears in itself all the features of a modern market economy. For example, A.M. Jewel considers the continued orientation on personal consumption of relatives united in the working team («strategy for livelihood

and food security») as the most important characteristic of family farms, defining their traditional content, stemming from the continuity of patriarchal family institution. Combining the strategy of commodity production and personal consumption besides the additional factor of labor motivation is a significant competitive advantage of family farms, because the use of family members' labor is estimated in the cost of final commodity products significantly lower than the cost of wage labor [33]. The natural qualities of family farms, due to their traditional content, provide the advantages of this organization form of rural production and territories in terms of supply chain management. First, the agrarian labor teams provide the demographic of rural population. In contrast, large agricultural holdings are an organization form that generates the opposite trend. Mass (industrial) agricultural production, focused on profit maximization, seeks to mechanize technological operations and layoff the labor force. In turn, the depopulation of a village leads to a narrowing of local consumer markets and possible de-socialization of part of the population [34]. Numerous studies have shown that the family farm, which provides the minimum distance between production and consumption, is optimal in terms of meeting the needs of the population [35].

On the contrary, a vertically organized supply chain from large agricultural holdings to distribution networks and consumers, firstly, increases the cost of products supplied to rural areas, secondly, due to competition with mass production creates invincible conditions for small economic forms entering the markets, expanding their production and marketability and, thirdly, produces a paradoxical situation: the channel is “blocked” for the flow of natural, least exposed to artificial modification products to consumers. Considering the shortcomings of vertically integrated agrarian structures, the trend that is in scientific literature called as «re-localization» of supply chains of products to a consumer, or, in a different way, «alternative food network», is developing momentum. Such an alternative food network is constructed based on: a) an analysis of territorial markets; b) creating horizontal supply chains; c) cooperation of farms in order to increase competitiveness and maximize the benefits associated with close proximity to a consumer [36]. «Total cost» [35] created on the basis of the horizontal integration of family farms, can be reproduced not only in agricultural production

itself, but also in processing for the fullest possible satisfaction of the population with food products.

In the minds of [36], an innovative reorientation of supply chains in the horizontal direction can contribute to the formation of «food hubs». Such «hubs» will have the potential of horizontal promotion of cooperation ties beyond separate territories [37]. The innovativeness of horizontal food supply chains based on the cooperation of family farms is determined by the overwhelming prevalence of vertically built structures in the global food supply organization of the population. So, in the US, 97% of food is delivered to the consumer through a network of supermarkets [38]. The horizontal transformation of food supply chains based on farms' cooperation will allow to solve several problems simultaneously:

- strengthening food security;
- expanding the range of eco-products;
- increase the potential of economic self-organization of the rural population;
- gaining sustainable development of the rural economy and territories.

An important feature of family farms is the reproduction of traditional moral norms. This form of economy organization is one of the few, the functioning of which presupposes the existence of an order determined by ethical norms, dating back centuries. The organization of family farms itself excludes the vices that are routine for ordinary business structures. For example, a family member cannot be a thief, cheater, lazy, etc. The work, which is based on the well-being of the family, motivates the members of the related team to an interested attitude to the common goal. As the experience of the family farms development shows, the mechanism of reproduction of necessary knowledge and skills works inside them. Thanks to the integration of workers in family groups, the transfer of information necessary for the formation of professional competencies starts from the moment when the younger generation begins to realize the world around it. Studies have shown that schooling for adolescents from family farms does not have the character of a primary source of knowledge. Intra-familial education plays a significant role in acquiring the necessary life skills. «Knowledge is still transmitted orally and through everyday practice,- writes H. Muller. Formal education at school is less important in terms of mediating new elements of knowledge. In short, the knowledge that the younger generation needs for

daily survival is acquired outside the school, not inside it. Acquired knowledge is no longer socially secure, but depends on individual experience, success and failure» [39]. Taking into account the significant role of family farms in the transfer of knowledge and cultural heritage, P. Kohafkan and M. Altneri suggest family farms being considered as «globally significant resource» [40]. The continuous integration of economic strategies of family farms provides them with a special place in the food security of the population. In contrast to large profit-oriented corporations, family farms, while participating in commodity production, nevertheless have the main goal-setting on personal consumption.

According to K. Tulmin and B. Gueil, «the main goal of the family farm is, first of all, to provide its members with food and shelter» [41]. In addition, market mobility and the small size of family farms allow them to manage efficiently even in conditions that are not suitable for mass agricultural production. In this regard, this organization form of agriculture seems to be the most adequate for the food supply of the population of industrial and mining regions. The traditional component of family farms provides them with a special place in bio-system and environmental protection. The man of traditional civilization world order identifies himself as a particle organically integrated into the nature and space, and not the host, completely dominating the habitat. The inhabitant of traditional world is not an opponent or a rival by his nature, but a part of it. His well-being is inseparably linked with the well-being of the surrounding world. Such a life strategy remains typical for most families developing their business working on land. That is why the Food and Agriculture Organization of the United Nations links the preservation of the ecological balance with family farms. An analytical report made by this organization states that it «recognizes that family farming goes beyond agricultural production and combines ecological, social, cultural, and environmental conservation goals» [42]. Like any other social-and-economic organization, the family farm is not without contradictions, which, however, are not an obstacle to its development; but on the contrary, serve as an incentive for further improvement. One contradiction directly stems from the continuity of family farms from the patriarchal institution and is associated with «the concentration of farm profits in the hands of the household' head and how they are distributed among the family labor force» [43]. At the same time, researchers emphasize that when

the state contributes to increasing the material viability of family farms, conflicts related to the sole using of income occur much less frequently. The problem connected with this contradiction is the naturally arising need to divide the family business between parents and children. On this subject, J. Belerere and his co-authors write: «Where there is a lot of land, the amount of available land per person, as a rule, remains constant during the transition from one generation to another, but in the situation, when there is little land, the creation of a new household as a result of family division, will inevitably lead to the division of the plots ... Younger sons, who consider that they were treated unfairly with the distribution of family lands, can instead ask for their share of agricultural equipment and work at their own expense» [43]. The world experience of solving the problem associated with the negative consequences of family farms fragmentation has several options for resolution. For example, in Norway, special services assist in the employment of young people outside family businesses. In Israel, there is a rule according to which the farm is transferred to the ownership of only one heir [41].

#### 4. Conclusion

Thus, a theoretical analysis of the essential features and characteristics of family farms testifies to the validity of their identification as a special form of organization of agricultural sector. The continuity of tradition and functioning in the traditional sector of social economy stipulates stability and adaptability to market conditions, which determines their global importance as a means of solving food problems in the world. Family farms, due to their natural traits, are able to reformat traditional vertically integrated food supply chains into horizontal, developing new-quality organization of rural economy.

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